ENVIRONMENTAL STUDIES/ ENVIRONMENTAL SCIENCE AND SUSTAINABILITY (BA/ MS)

Loyola's BA in Environmental Studies combines a solid base of courses in the natural sciences with course work in the social sciences to prepare students for careers in government, business, education, non-profit organizations or the media.

With our Accelerated Bachelor's/Master's Program, Loyola SES students can boost their professional credentials and save time and money by completing an undergraduate degree along with a master of science in environmental science and sustainability degree in as little as five years. The economic and academic benefits are substantial.

CURRICULUM

Environmental Studies BA students complete coursework spanning a variety of disciplines pertinent to the understanding of environmental issues.

Code	Title	Hours
BS Requirements		
Core Curriculum		
ENVS 137	Foundations of Environmental Science I	3
ENVS 237	Foundations of Environmental Science II	3
ENVS 238	Foundations of Environmental Science Lab	1
ENVS 200	Environmental Careers and Professional Skills	1
ENVS 203	Environmental Statistics	3
ENVS 280	Principles of Ecology	3
ENVS 286	Principles of Ecology Lab	1
PLSC 392	Environmental Politics	3
Justice and Ethics Choice		
Select one of the following:		3
ENVS 284	Environmental Justice	
PHIL 287	Environmental Ethics	
THEO 204	Religious Ethics and the Ecological Crisis	
Economics Choice		
Select one of the following:		3
ENVS 335	Ecological Economics	
ECON 328	Environmental Economics	
Engaged Learning Choice		
Select one of the following:		3
ENVS 226	Science & Conservation of Freshwater Ecosystems	
ENVS 267	Bird Conservation and Ecology	
ENVS 273	Energy and The Environment	
ENVS 283	Environmental Sustainability	
ENVS 340	Natural History of Belize	
ENVS 345	Conservation and Sustainability of Neotropical Ecosystems	
ENVS 350A	Solutions to Environmental Problems: Water	
ENVS 350B	Solutions to Environmental Problems: Biogas	
ENVS 350C	Solutions to Environmental Problems: Climate Action	
ENVS 350F	Solutions to Environmental Problems: Food Systems	
ENVS 391	Environmental Research	
ENVS 395	Environmental Internship	
Capstone Choice		
Select one of the following:		3
ENVS 390	Integrative Seminar	
ENVS 391C	Independent Environmental Research (Capstone)	
ENVS 395C	Environmental Internship (Capstone)	
Electives		*21*
See designated elective categories below		
MS Requirements		
Required Courses		
ENVS 401	Sustainable Systems - Natural Science Perspectives	3
ENVS 402	Sustainable Systems - Social Science Perspectives	3
Choose One of Four Concentrations [1]		*9-12*
Environmental Law & Policy		
ENVS 410	Introduction to Environmental Law & Policy	
ENVS 411	Natural Resources and Land Use Law & Policy	
ENVS 412	Water Law & Policy	
ENVS 413	Energy Law & Policy	
Geographic Information Systems		
ENVS 480	Introduction to Geographic Information Systems	
ENVS 481	Advanced GIS Applications	
ENVS 482	Remote Sensing	
Sustainable Assessment and Planning		
ENVS 451	Introduction to Sustainability Concepts & Impacts	
ENVS 452	Sustainability Assessment & Reporting I	
ENVS 453	Sustainability Assessment & Reporting II	
ENVS 454	Sustainability Plan Development & Reporting	
Sustainable Business		
ENVS 433	Introduction to the Circular Economy	
ENVS 435	Ecological Economics	
ENVS 436	Design for Circular & Sustainable Business	
ENVS 463	Sustainable Business Management	
MS Electives		*12-15*
Total Hours		**81**

[1] Students choosing the Geographical Information Systems track must take an additional elective course to meet a total credit hours for the MS.

BA Electives

Code	Title	Hours
Society, Ethics, and Justice		
Select two of the following:		6
COMM 260	Environmental Journalism	
ENVS 204	Gender, Health & Environment	
ENVS 279	Climate and History	
ENVS 284	Environmental Justice	

ENVS 297	North American Environmental History	
ENVS 298	Special Topics (with SES approval)	
ENVS 310	Introduction to Environmental Law & Policy	
ENVS 311	Natural Resources and Land Use Law & Policy	
ENVS 312	Water Law & Policy	
ENVS 313	Energy Law & Policy	
ENVS 338	Climate Change and Human Health	
ENVS 350A	Solutions to Environmental Problems: Water	
ENVS 350B	Solutions to Environmental Problems: Biogas	
ENVS 350C	Solutions to Environmental Problems: Climate Action	
ENVS 350F	Solutions to Environmental Problems: Food Systems	
ENVS 383	Human Dimensions of Conservation	
ENVS 391	Environmental Research	
ENVS 395	Environmental Internship	
ENVS 398	Special Topics (with SES approval)	
ENVS 399	Directed Readings	
COMM 101	Public Speaking & Critical Thinking	
COMM 277	Organizational Communication	
COMM 306	Environmental Advocacy	
COMM 322	Guerilla Media	
ENGL 288	Nature in Literature	
PHIL 287	Environmental Ethics	
PSYC 277	Environmental Psychology	
SOCL 226	Science, Technology, & Society	
SOCL 252	Global Inequalities	
SOCL 272	Environmental Sociology	
SOCL 276	The Sociology and Politics of Food	
SOCL 278	Global Health	
THEO 204	Religious Ethics and the Ecological Crisis	
THEO 344	Theology and Ecology	
Policy, Economics, and Resource Management		
Select one of the following:		3
ENVS 298	Special Topics (with SES approval)	
ENVS 300	Introduction to Public Health	
ENVS 310	Introduction to Environmental Law & Policy	
ENVS 311	Natural Resources and Land Use Law & Policy	
ENVS 312	Water Law & Policy	
ENVS 313	Energy Law & Policy	
ENVS 332	Industrial Ecology	
ENVS 333	Introduction to the Circular Economy	
ENVS 335	Ecological Economics	
ENVS 336	Design for Circular & Sustainable Business	
ENVS 338	Climate Change and Human Health	
ENVS 351	Introduction to Sustainability Concepts & Impacts	
ENVS 363	Sustainable Business Management	
ENVS 364	Sustainability Management in the Global Context	
ENVS 383	Human Dimensions of Conservation	
ENVS 384	Conservation Economics	
ENVS 389	Ecological Risk Assessment	
ENVS 391	Environmental Research	
ENVS 395	Environmental Internship	
ENVS 398	Special Topics (with SES approval)	
ENVS 399	Directed Readings	
ECON 328	Environmental Economics	
GLST 305	Globalization and Environmental Sustainability	
MGMT 201	Managing People and Organizations	
PLSC 354	Global Environmental Politics	
Methods and Analysis		
Select one of the following:		3
COMM 260	Environmental Journalism	
ENVS 298	Special Topics (with SES approval)	
ENVS 327	Food Systems Analysis	
ENVS 352	Sustainability Assessment & Reporting I	
ENVS 353	Sustainability Assessment & Reporting II	
ENVS 354	Sustainability Plan Development & Reporting	
ENVS 380	Introduction to Geographic Information Systems	
ENVS 381	Advanced GIS Applications	
ENVS 382	Remote Sensing	
ENVS 384	Conservation Economics	
ENVS 388	Applied Environmental Statistics	
ENVS 389	Ecological Risk Assessment	
ENVS 391	Environmental Research	
ENVS 395	Environmental Internship	
ENVS 398	Special Topics (with SES approval)	
ENVS 399	Directed Readings	
ANTH 317	Ethnographic Methods	
BIOL 335	Intro to Biostatistics	
COMM 231	Conflict Management and Communication	
COMM 234	Interviewing for Communication	
COMM 277	Organizational Communication	
COMM 363	Research Methods in Advertising/Public Relations	
MARK 320	Marketing for Environmental Sustainability	
SOCL 206	Principles of Social Research	
SOCL 301	Statistics for Social Research	
SOCL 302	Qualitative Research	
STAT 203	Introduction to Probability & Statistics	
STAT 303	SAS Programming & Applied Statistics	
Environmental Electives		
Choose three, at least one of which must be from List A and at least one of which must be at the 300 level):		9
List A		
ENVS 204	Gender, Health & Environment	
ENVS 207	Plants and Civilization	
ENVS 218	Biodiversity & Biogeography	
ENVS 223	Soil Ecology	
ENVS 224	Climate & Climate Change	
ENVS 226	Science & Conservation of Freshwater Ecosystems	
ENVS 227R	Ecology of the Mediterranean Sea	
ENVS 267	Bird Conservation and Ecology	
ENVS 273	Energy and The Environment	
ENVS 274	Chemistry of the Environment	
ENVS 278	Hydrology	

ENVS 283	Environmental Sustainability
ENVS 298	Special Topics (with SES approval)
ENVS 300	Introduction to Public Health
ENVS 301	Environmental Health
ENVS 303	Introduction to Epidemiology
ENVS 319	Winter Ecology
ENVS 320	Conservation Biology
ENVS 322	Invasive Species
ENVS 325	Sustainable Agriculture
ENVS 326	Agroecosystems
ENVS 327	Food Systems Analysis
ENVS 330	Restoration Ecology
ENVS 338	Climate Change and Human Health
ENVS 340	Natural History of Belize
ENVS 345	Conservation and Sustainability of Neotropical Ecosystems
ENVS 350A	Solutions to Environmental Problems: Water
ENVS 350B	Solutions to Environmental Problems: Biogas
ENVS 350C	Solutions to Environmental Problems: Climate Action
ENVS 350F	Solutions to Environmental Problems: Food Systems
ENVS 352	Sustainability Assessment & Reporting I
ENVS 353	Sustainability Assessment & Reporting II
ENVS 369	Field Ornithology
ENVS 380	Introduction to Geographic Information Systems
ENVS 381	Advanced GIS Applications
ENVS 382	Remote Sensing
ENVS 385	Introduction to Global Health
ENVS 387	Principles of Ecotoxicology
ENVS 388	Applied Environmental Statistics
ENVS 389	Ecological Risk Assessment
ENVS 391	Environmental Research
ENVS 395	Environmental Internship
ENVS 398	Special Topics (with SES approval)
ENVS 399	Directed Readings
ANTH 104	The Human Ecological Footprint
ANTH 303	People and Conservation
List B	
COMM 260	Environmental Journalism
ENVS 279	Climate and History
ENVS 297	North American Environmental History
ENVS 298	Special Topics (with SES approval)
ENVS 310	Introduction to Environmental Law & Policy
ENVS 311	Natural Resources and Land Use Law & Policy
ENVS 312	Water Law & Policy
ENVS 313	Energy Law & Policy
ENVS 332	Industrial Ecology
ENVS 333	Introduction to the Circular Economy
ENVS 335	Ecological Economics
ENVS 336	Design for Circular & Sustainable Business
ENVS 354	Sustainability Plan Development & Reporting
ENVS 363	Sustainable Business Management
ENVS 364	Sustainability Management in the Global Context
ENVS 383	Human Dimensions of Conservation
ENVS 384	Conservation Economics
ENVS 388	Applied Environmental Statistics
ENVS 391	Environmental Research
ENVS 395	Environmental Internship
ENVS 398	Special Topics (with SES approval)
ENVS 399	Directed Readings
ANTH 317	Ethnographic Methods
COMM 231	Conflict Management and Communication
COMM 234	Interviewing for Communication
COMM 277	Organizational Communication
COMM 363	Research Methods in Advertising/Public Relations
MARK 320	Marketing for Environmental Sustainability
SOCL 206	Principles of Social Research
SOCL 302	Qualitative Research
BIOL, CHEM, PHYS 300-level courses (with SES approval)	
Total Hours	**21**

MS Electives

Code	Title	Hours
Natural Science and Quantitative Courses		**6**
Students will take at least two courses from the following list of electives.		
ENVS 420	Conservation Biology	
ENVS 422	Invasive Species	
ENVS 425	Sustainable Agriculture	
ENVS 426	Agroecosystems	
ENVS 427	Food Systems Analysis	
ENVS 430	Restoration Ecology	
ENVS 435	Ecological Economics	
ENVS 438	Climate Change and Human Health	
ENVS 451	Introduction to Sustainability Concepts & Impacts	
ENVS 452	Sustainability Assessment & Reporting I	
ENVS 453	Sustainability Assessment & Reporting II	
ENVS 480	Introduction to Geographic Information Systems	
ENVS 481	Advanced GIS Applications	
ENVS 482	Remote Sensing	
ENVS 484	Conservation Economics	
ENVS 487	Principles of Ecotoxicology	
ENVS 488	Applied Environmental Statistics	
ENVS 489	Ecological Risk Assessment	
ENVS 491	Independent Environmental Research (upon approval)	
ENVS 498	Special Topics (upon approval)	
ENVS 498L	Special Topics with Lab (upon approval)	
ENVS 499	Directed Readings (upon approval)	
BIOL 495	Special Topics	
BIOL 416	Limnology Lec/Lab	
BIOL 418	Aquatic Insects Lecture & Laboratory	
BIOL 470	Biostats & Exp Design Lec/Lab	
MPBH 401	Environmental Health	
MPBH 402	Public Health Practice and Management	

MPBH 403	Introduction to Epidemiology
MPBH 404	Biostatistics for Health and Biological Science
MPBH 407	Public Health Policy: Concepts and Practice
MPBH 409	Biostatistics I
MPBH 412	Intro to Statistical Computing for Public Health
MPBH 414	Introduction to Global Health
MPBH 421	Biostatistics II
MPBH 423	Intermediate Epidemiology
MPP 401	Analytical Tools in Public Policy
MPP 402	Cost Benefit Analysis
MPP 403	Public Budget and Finance
MPP 405	Statistical Methods & Analysis for Public Policy I
MPP 406	Statistical Methods & Analysis Public Policy II
MPP 408	Political Feasibility Analysis
SOCL 414	Statistical Methods Analysis I
SOCL 415	Statistical Methods of Analysis II
STAT 403	SAS Program & Applied Statistics
STAT 407	Statistical Design
STAT 436	Topics in Biostatistics

Sustainable Society and Business Courses

Student may choose from courses focused on society's interaction with the environment: environmental law and policy, sustainable business management, and fostering sustainable societies.

ENVS 410	Introduction to Environmental Law & Policy
ENVS 411	Natural Resources and Land Use Law & Policy
ENVS 412	Water Law & Policy
ENVS 413	Energy Law & Policy
ENVS 432	Industrial Ecology
ENVS 433	Introduction to the Circular Economy
ENVS 436	Design for Circular & Sustainable Business
ENVS 454	Sustainability Plan Development & Reporting
ENVS 463	Sustainable Business Management
ENVS 464	Sustainability Management in the Global Context
ENVS 483	Human Dimensions of Conservation
ENVS 491	Independent Environmental Research (upon approval)
ENVS 498	Special Topics (upon approval)
ENVS 499	Directed Readings (upon approval)
MPBH 407	Public Health Policy: Concepts and Practice
MPP 400	Policy Design and Analysis
MPP 404	Public Policy Process
PSYC 460	Social Psychological Theory
PSYC 461	Attitude and Attitude Change
PSYC 486	Methods of Program Evaluation
SOCL 412	Qualitative Methods in Social Research
SOCL 446	Knowledge, Power & Expertise
SOCL 463	Sociology & Natural Environment

Suggested Sequence of Courses - Research Track

Course	Title	Hours
Year One		
Fall		
ENVS 137	Foundations of Environmental Science I	3
	Hours	**3**
Spring		
ENVS 203	Environmental Statistics	3
ENVS 237	Foundations of Environmental Science II	3
ENVS 238	Foundations of Environmental Science Lab	1
Justice & Ethics Choice		3
	Hours	**10**
Year Two		
Fall		
ENVS 200	Environmental Careers and Professional Skills	1
ENVS 280	Principles of Ecology	3
ENVS 286	Principles of Ecology Lab	1
	Hours	**5**
Spring		
Environmental Science Elective List A		3
	Hours	**3**
Year Three		
Fall		
Society, Ethics, & Justice Elective		3
	Hours	**3**
Spring		
PLSC 392	Environmental Politics	3
Society, Ethics, & Justice Elective		3
	Hours	**6**
Year Four		
Fall		
ENVS 335 or ECON 328	Ecological Economics or Environmental Economics	3
Engaged Learning Choice		3
ENVS 402	Sustainable Systems - Social Science Perspectives	3
400 Level Environmental Science Elective List A or B		3
	Hours	**12**
Spring		
Capstone Choice		3
Methods & Analysis Elective		3
ENVS 401	Sustainable Systems - Natural Science Perspectives	3
400 Level Policy, Economics, & Resource Management Elective		3
	Hours	**12**
Year Five		
Fall		
ENVS 496	Research	3-12
400 Level Environmental Elective		3
400 Level Environmental Elective		3
	Hours	**9**

Spring		
ENVS 401	Sustainable Systems - Natural Science Perspectives	3
400 Level Environmental Elective		3
400 Level Required Concentration Course		3
	Hours	**9**
	Total Hours	**72**

Guidelines for Accelerated Bachelor's/ Master's Programs

Terms

- Accelerated Bachelor's/Master's programs: In this type of program, students share limited credits between their undergraduate and graduate degrees to facilitate completion of both degrees.
- Shared credits: Graduate level credit hours taken during the undergraduate program and then applied towards graduate program requirements will be referred to as shared credits.

Admission Requirements

Accelerated Bachelor's/Master's programs are designed to enhance opportunities for advanced training for Loyola's undergraduates. Admission to these programs must be competitive and will depend upon a positive review of credentials by the program's admissions committee. Accordingly, the admission requirements for these programs may be higher than those required if the master's degree were pursued entirely after the receipt of a bachelor's degree. That is, programs may choose to have more stringent admissions requirements in addition to those minimal requirements below.

Requirements:

- Declared appropriate undergraduate major,
- By the time students begin taking graduate courses as an undergraduate, the student has completed approximately 90 credit hours, or the credit hours required in a program that is accredited by a specialty organization,[1]
- A minimum cumulative GPA for coursework at Loyola that is at or above the program-specific requirements, a minimum major GPA that is at or above the program-specific requirements, and/or appropriate designated coursework for evaluation of student readiness in their discipline.[2]

Students not eligible for the Accelerated Bachelor's/Master's program (e.g., students who have not declared the appropriate undergraduate major) may apply to the master's program through the regular admissions process. Students enrolled in an Accelerated Bachelor's/Master's program who choose not to continue to the master's degree program upon completion of the bachelor's degree will face no consequences.[3]

Ideally, a student will apply for admission (or confirm interest in proceeding towards the graduate degree in opt-out programs) as they approach 90 credit hours. Programs are encouraged to begin advising students early in their major so that they are aware of the program and, if interested, can complete their bachelor's degree requirements in a way that facilitates completion of the program. Once admitted as an undergraduate, Program Directors should ensure that students are enrolled using the plan code associated with the Accelerated Bachelor's/ Master's program. Using the plan code associated with the Accelerated Bachelor's/Master's program will ensure that students may be easily identified as they move through the program. Students will not officially matriculate into the master's degree program and be labeled as a graduate student by the university, with accompanying changes to tuition and Financial Aid (see below), until the undergraduate degree has been awarded. Once admitted to the graduate program, students must meet the academic standing requirements of their graduate program as they complete the program curriculum.

1 Programs that have specialized accreditation will adhere to the admissions criteria provided by, or approved by, their specialized accreditors.

2 The program will identify appropriate indicators of student readiness for graduate coursework (e.g., high-level performance in 300 level courses). Recognizing differences between how majors are designed, we do not specify a blanket requirement.

3 If students choose not to enroll in the Accelerated Bachelor's/Master's program, they still must complete all of the standard requirements associated with the undergraduate degree (e.g., a capstone).

For more information on Admissions requirements, visit here (https://gpem.luc.edu/portal/admission/?tab=home).

Curriculum

Level and progression of courses. The Accelerated Bachelor's/Master's programs are designed to be competitive and attractive to our most capable students. Students admitted to Accelerated Bachelor's/ Master's programs should be capable of meeting graduate level learning outcomes. Following guidance from the Higher Learning Commission, only courses taken at the 400 level or higher (including 300/400 level courses taken at the 400 level) will count toward the graduate program.[1,2] Up to 50% of the total graduate level credit hours, required in the graduate program, may come from 300/400 level courses where the student is enrolled in the 400 level of the course. Further, at least 50% of the credit hours for the graduate program must come from courses that are designed for and restricted to graduate students who have been admitted to a graduate program at Loyola (e.g., enrolled in plan code that indicates the Accelerated Bachelor's/Master's program, typically ending with the letter "D").[3]

In general, graduate level coursework should not be taken prior to admission into the Accelerated Bachelor's/Master's program. Exceptions may be granted for professional programs where curriculum for the Accelerated Bachelor's/Master's program is designed to begin earlier. On the recommendation of the program's Graduate Director, students may take one of their graduate level courses before they are admitted to the Accelerated Bachelors/Master's program if they have advanced abilities in their discipline and course offerings warrant such an exception.[4] Undergraduate degree requirements outside of the major are in no way impacted by admission to an Accelerated Bachelor's/Master's program.[5]

Shared credits. Undergraduate courses (i.e., courses offered at the 300 level or below) cannot be counted as shared credits nor count towards the master's degree. Up to 50% of the total graduate level credit hours, required in the graduate program, may be counted in meeting both the undergraduate and graduate degree requirements. Of those shared credits, students in an Accelerated Bachelor's/Master's program should begin their graduate program with the standard introductory course(s) for the program whenever possible. So that students may progress through the Accelerated Bachelor's/Master's program in a timely manner, undergraduate programs are encouraged to design their curriculum such that a student can complete some required graduate credit hours while

completing the undergraduate degree. For instance, some of the graduate curriculum should also satisfy electives for the undergraduate major.

The program's Graduate Director will designate credit hours to be shared through the advising form and master's degree conferral review process. Shared credit hours will not be marked on the undergraduate record as having a special status in the undergraduate program. They will be included in the student's undergraduate earned hours and GPA. Graduate credit hours taken during the undergraduate program will not be included in the graduate GPA calculation.

[1] If students wish to transfer credits from another university to Loyola University Chicago, the program's Graduate director will review the relevant syllabus(es) to determine whether it meets the criteria for a 400 level course or higher.

[2] Programs with specialized accreditation requirements that allow programs to offer graduate curriculum to undergraduate students will conform to those specialized accreditation requirements.

[3] In rare cases, the Graduate Director may authorize enrollment in a 400-level course for a highly qualified and highly motivated undergraduate, ensuring that the undergraduate's exceptional participation in the graduate class will not diminish in any way the experience of the graduate students regularly enrolled.

[4] For example, if a particular course is only offered once every 2-3 years, and a student has demonstrated the necessary ability to be successful, the Graduate Director may allow a student to take a graduate level course to be shared prior to the student being formally admitted to the graduate program. See, also, footnote 3.

[5] Students should not, for example, attempt to negotiate themselves out of a writing intensive requirement on the basis of admission to a graduate program.

Graduation

Degrees are awarded sequentially. All details of undergraduate commencement are handled in the ordinary way as for all students in the School/College/Institute. Once in the graduate program, students abide by the graduation deadlines set forth by the graduate program. Students in these programs must be continuously enrolled from undergraduate to graduate degree program unless given explicit permission by their program for a gap year or approved leave of absence.

BA LEARNING OUTCOMES

1. Demonstrate an understanding of scientific, social, and humanistic approaches to environmental questions.
2. Appraise the interactions and synergies between the natural world, social systems, and human cultures.
3. Advance environmental and social sustainability that integrates scientific research, social analysis, and cultural awareness.
4. Engaged actions of self-awareness and social solidarity that reflect a commitment to integral ecology.

SES Shared Learning Outcomes

All SES majors share the following Program Learning Objectives, in addition to their unique major-specific Program Learning Objectives:

1. Articulate the foundational principles of natural and social sciences and humanities essential to solving environmental problems.
2. Critically evaluate the accuracy and credibility of information relating to environmental topics.
3. Employ knowledge and skills to design and implement solutions that contribute to a just and sustainable world.
4. Exemplify the values of environmental and social justice through actions to care for our common home and one another.

MS LEARNING OUTCOMES

1. Deepen your understanding of complex socio-ecological systems and their connection with sustainable development goals.
2. Increase your ability to make accurate and ethical evidence-based decisions from scientific literature.
3. Expand your capacity to communicate environmental science and sustainability issues to the scientific community, professional colleagues, policy makers, and the general public.
4. Demonstrate competence of in-depth knowledge and skills through completion of an original research project and thesis.